



Donaldson.  
FILTRATION SOLUTIONS

# Process Filtration From Pure to Sterile

## (P)-PP100

### MAIN FEATURES & BENEFITS:

- Absolute particle removal
- Tapered pore structure for longer service life
- Highly durable Polypropylene construction
- Excellent flow rate
- Approved for Food Contact Use acc. to CFR Title 21 & 1935/2004/EC



### INDUSTRIES:



- Breweries



- Wineries



- Mineral Water & Soft Drinks



- Chemical



- Environmental

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Donaldson®  
**Ultrafilter**

## PRODUCT DESCRIPTION

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Donaldson (P)-PP100 filters are absolute rated depth type filters constructed of 100 % Polypropylene. They contain a graded density Polypropylene microfiber filter medium that provides a tapered pore structure. (P)-PP100 filters deliver superior flow rates and high throughput, with absolute submicron particulate retention and high dirt holding capacity. Their all-Polypropylene construction provides broad chemical compatibility and low extractable levels in a wide range of fluids and applications.

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The (P)-PP100 filter's Polypropylene media is made from a process which produces a self-bonded structure comprised of multiple layers of successively finer fibres and smaller pores. This state-of-the-art design results in a highly porous, tapered pore structure consistent of a controlled absolute rated inner layer and several outer prefilter layers which substantially increase the dirt holding capacity.

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All components meet the EU and USA requirements for Food Contact Use in accordance with **CFR (Code of Federal Regulations) Title 21** and **1935/2004/EC**. (P)-PP100 has passed the USP Class VI tests for plastics. The filter element is manufactured in accordance with the manufacturing requirements, has no migration of filter media, is non-fibre releasing and is thermally welded without the use of binders or other chemical additives.

**The absolute rated (P)-PP100 depth filter is designed and developed as prefilter in front of membrane filters or as low cost alternative to membrane – based final filters. Typical applications for (P)-PP100 filter elements include:**

### Purification of Food and Beverage products

- Bottled Water
- Soft Drinks
- Beer
- Wine
- Spirits
- Syrups

### Purification of chemicals

- Acids
- Bases
- Complexing agents
- Alcohols, Aldehydes
- Etchants
- Chlorinated and fluorinated solvents
- Esters and Ketones
- Photolithographic Liquids

## PRODUCT SPECIFICATIONS

### Product Specifications

#### Absolute Retention Rates

- 0,8 µm, 1,2 µm, 2,4 µm, 5 µm, 10 µm

#### Filtration Surface

- 0,5 m<sup>2</sup> per 250 mm element (10")

#### Maximum Differential Pressure

Operating temperature [°C / °F]	Differential pressure [bar / psi]
38 / 100	5,5 / 80
66 / 150	4,1 / 60
82 / 180	2,1 / 30

#### Cumulative Steaming Time\*

- 121°C (250° F), Saturated Steam: > 100 cycles (30 minutes)

*\*Figures are based on lab tests to evaluate steaming resistance. Filter elements need to be checked in actual use. Contact Donaldson for recommended Autoclaving/Steaming procedures.*

## MATERIAL COMPLIANCE EU

The Donaldson (P)-PP100 filter element meets the guideline for Food Contact Use as given in **European Regulation (EC) Number 1935/2004**. All polymeric components (Polypropylene) meet the requirements of EU Directive 2002/72/EC relating to plastic materials and articles intended to come into contact with foodstuffs (excluding O-rings).

Migration tests have been carried out in simulant after flushing or in flow conditions.

For specific details on the O-rings, please contact your Donaldson Sales Engineer.

**MATERIAL COMPLIANCE USA**

All components of the (P)-PP100 filter element are FDA listed for food contact use in the **Code of Federal Regulations (CFR), Title 21**

Filter Materials	CFR Title
<b>Filter Matrix:</b>	Polypropylene 177.1520
<b>Upstream Support:</b>	Polypropylene 177.1520
<b>Downstream Support:</b>	Polypropylene 177.1520
<b>Outer Guard:</b>	Polypropylene 177.1520
<b>Core:</b>	Polypropylene 177.1520
<b>End Caps:</b>	Polypropylene 177.1520
<b>O-Rings:</b>	EPDM 177.2600
<b>Alternatively:</b>	Silicone 177.2600
	Buna N 177.2600
	PTFE over silicone 177.1550
	PTFE over viton 177.1550
<b>Sealing Method:</b>	Thermal Bonding

**All products have been inspected and released by Quality Assurance as having met the following requirements:**

- All filters are fabricated without the use of binders, adhesives, additives or surface-active agents.
- All filters show no migration of the filter medium and are non-fibre releasing.
- All filter components based on plastics are non-toxic and are certified bio-safe in accordance with current USP Class VI Tests for Plastic.
- Bacterial endotoxin levels in aqueous extracts of (P)-PP100 filter elements are less than 0,5 EU/ml, as determined using the limulus amoebocyte lysate (LAL) test.

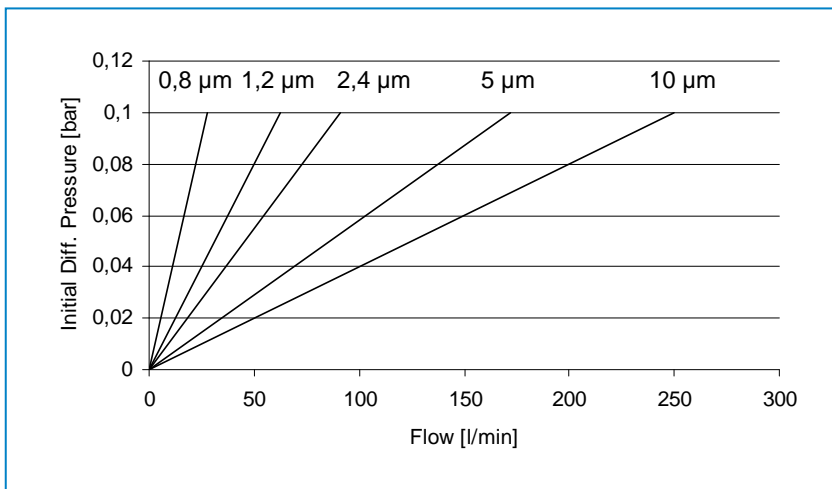
RETENTION

Particle Retention			
Retention Grade	Percent Removal		
	100 %	99 %	90 %
0,8	0,80	0,72	0,50
1,2	1,20	1,10	0,70
2,4	2,40	2,30	2,00
5	5,00	4,50	3,00
7	7,00	6,50	5,00
10	10,00	9,50	7,50

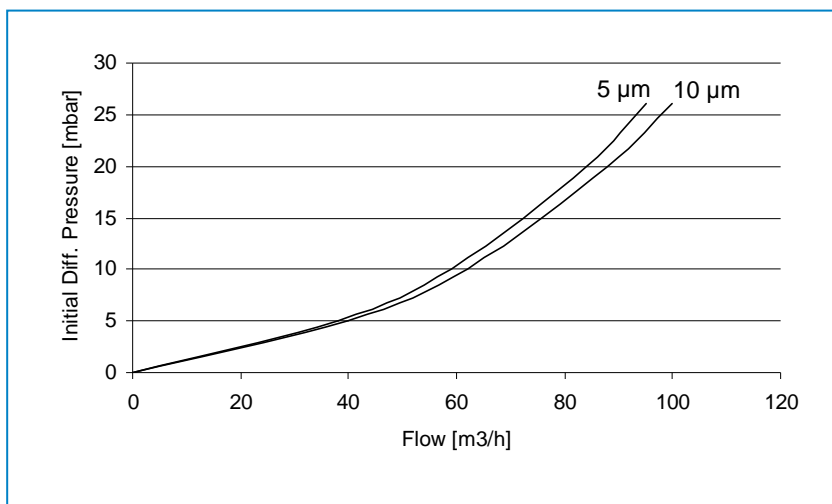
The removal ratings given in this chart represent actual dynamic measurements obtained from a controlled laboratory tests using latex spheres in deionised water at a flow rate of 7,6 l/m (2 gpm) per 10" element.

The particle retention efficiencies were determined with a state-of-the-art liquid particle counter that can accurately measure particles down to 0,3 µm.

FLOW CHARACTERISTICS



(P)-PP100, 10",  
Deionised water, 25°C



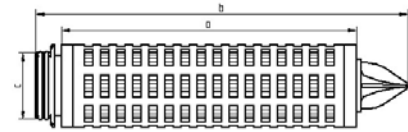
(P)-PP100, 10", air, 25°C,  
1 bar absolute

## AVAILABLE END CAP CONFIGURATIONS

## Dimensions (CODE 7 connection):

CODE 7						
Size	a		b		c	
	mm	inch	mm	inch	mm	Inch
10"	250	9,84	315	12,40	56,5	2,22
20"	500	19,68	565	22,24	56,5	2,22
30"	750	29,53	815	32,08	56,5	2,22

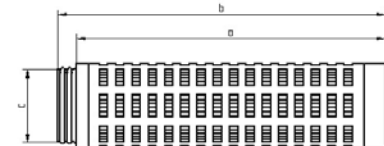
CODE 7: 2 x 226 o-rings, bayonet 2 locking tabs, locating fin.



## Dimensions (uf plug connection):

uf-plug connection						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10/30	254	10	270	10,63	61	2,40
20/30	510	20	526	20,63	61	2,40
30/30	764	30	780	30,63	61	2,40

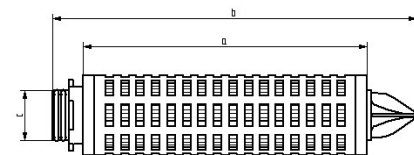
uf: plug connection with integrated reinforcement metal ring and flat end cap.



## Dimensions (P9 connection):

CODE 9						
Size	a		b		c	
	mm	inch	mm	inch	mm	inch
10"	250	9,84	320	12,59	44	1,73
20"	500	19,68	570	22,44	44	1,73
30"	750	29,53	820	32,28	44	1,73

P9: 2 x 222 o-rings, bayonet 3 locking tabs, locating fin.



Other end cap configurations on request.

Technical alterations reserved 04/2009

- Integrity test of this element to be done by DOP Test.
- For information on test equipment or test services, please contact your Donaldson Sales Engineer and visit our website at [www.donaldson.com](http://www.donaldson.com)!

(Rev02 – 07/10)